WHAT IS CLAIMED IS:

1. A magnetic angular-position sensor mounted between two carrier elements (1, 2) that are movable in rotation relative to each other about an axis of rotation (X), the sensor comprising firstly a magnetic body (3) defining a working zone (4) in which there extends a magnetic field having field lines perpendicular to the axis of rotation (X), and secondly a detector member comprising at least one probe (5) extending in the working zone (4) of the magnetic member (3) in order to provide a signal (S) as a function of the angular orientation of the probe (5) relative to the field lines in the working zone, wherein the magnetic member comprises two parallel magnet segments (6; 6') and two elongate pole pieces (7) of ferromagnetic material extending perpendicularly to the magnet segments (6; 6') and covering the ends thereof.

2. A sensor according to claim 1, wherein the magnet segments are bar magnets (6).

3. A sensor according to claim 2, wherein the pole pieces (7) have chamfered ends (11).

4. A sensor according to claim 1, wherein the magnetic member comprises a U-shaped magnet (15) having flanges (6') forming the magnet segments and a web (8) forming a bottom for the magnetic member (3).

5. A sensor according to claim 4, wherein the pole pieces (7) have edges (11, 12) that are chamfered following a profile of the U-shaped magnet.

6. A sensor according to claim 1, wherein the sensor is connected to the two carrier elements (1, 2) in such a manner that the probe (5) moves over a detection range for which the signal (S) from the detector (5) is substantially linear.

7. A sensor according to claim 6, wherein the working range extends over 35° on either side of the position in which the magnetic field measured by the probe (5) is zero.